**IN THE CLAIMS:**

Claims 1-5 (cancelled)

Claim 6 (currently amended): A GPS receiver to detect a composite GPS signal comprising GPS signals from all GPS satellites in view of the GPS receiver, comprising:

an antenna to receive the composite GPS signal;

a memory to store a portion of the received composite GPS signal;

means for segmenting the stored GPS signal into plurality of segments, each segment one millisecond in duration;

an FFT process to perform an FFT on each segment to produce a plurality of FFT segments, each of said plurality of FFT segments representing an FFT of a one millisecond segment of the stored GPS signal;

a plurality of multipliers to multiply each FFT segment by a frequency representation of a GPS Gold code to generate a plurality of product vectors;

an inverse FFT process to convert each product vector to the time domain;

a magnitude calculator to calculate a point-by-point magnitude vector of each of the product vectors;

an adder to calculate a point-by-point sum of each of the magnitude vectors;

a peak detector to determine a location of a peak as an estimate of the Gold code phase; and

means for determining a carrier frequency using a height of the peak.

Claim 7 (original): The GPS receiver recited in claim 6, wherein a carrier frequency of each segment is shifted prior to multiplication by the frequency representation of the Gold code.

Claim 8 (original):The GPS receiver recited in claim 7, wherein the frequency representation of the Gold code is pre-computed and stored in the memory.

Claim 9 (currently amended): A method for detecting Gold code phase and carrier frequency in a GPS signal comprising the steps of:

collecting the GPS signal;

storing a one millisecond segment of the GPS signal in a memory;

converting the <u>one millisecond segment of the</u> stored GPS signal to the frequency domain;

multiplying the frequency domain representation of the <u>one millisecond segment of the</u> GPS signal by a frequency representation of a Gold code corresponding to a GPS satellite in view of the GPS receiver to obtain a product;

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converting the product to the time domain to obtain a correlation signal; <u>and</u>

detecting a peak correlation signal as the Gold code phase.

Claim 10 (previously presented): The method recited in claim 9, further comprising the step of adjusting the carrier frequency of the one millisecond sample to make the peak more distinct.

Claim 11 (original): The method recited in claim 9, further comprising the steps of:

pre-computing the frequency representation of the Gold code; and

storing the pre-computed frequency representation of the Gold code in the memory.

Claim 12 (previously presented): The method recited in claim 9, further comprising the step of using a curve fitting routine to refine the location of the peak.

Claim 13 (original): The method recited in claim 9, further comprising the step of performing a half bin analysis to further refine the carrier frequency.

Claim 14 (currently amended): A method for detecting Gold code phase and carrier frequency in a GPS signal comprising the steps of:

collecting a multiple millisecond portion of a composite GPS signal in a GPS receiver;

storing the portion of the composite GPS signal in a memory in the GPS receiver;

partitioning the collected composite into one millisecond segments;

converting each one millisecond segment independently to the frequency domain to produce a plurality of converted millisecond segments;

multiplying each of the converted millisecond segments by a frequency representation of a Gold code corresponding to a GPS satellite in view of the receiver to generate a product;

converting each product to the time domain to obtain a correlation signal between each millisecond segment and the Gold code;

determining a location of a peak in each of the one millisecond segments corresponding to a Gold code phase using the correlation signals; and

determining a carrier frequency using the located peaks..

Claim 15 (original): The method recited in claim 14, wherein the peak determining step uses non-coherent detection.

Claim 16 (original): The method recited in claim 15, further comprising the steps of:

calculating a point-by-point magnitude for each of the correlation signals; and

summing point-by-point each of the calculated magnitudes.

Claim 17 (original): The method recited in claim 14, wherein the peak determining step uses coherent detection.

Claim 18 (original): The method recited in claim 17, further comprising the steps of:

determining an estimate of the peak location;

determining a frequency of a sine wave fitting complex values at the point of the peak location;

adjusting each correlation in accordance with the determined frequency of the sine wave;

summing point-by-point the points of the correlations;

calculating the magnitude of the summed correlations; and

determining a peak from the calculated magnitude.

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Claim 19 (original): The method recited in claim 17, further comprising the step of choosing only a few points around the estimated peak location to process.

Claim 20 (original): The method recited in claim 19, further comprising the step of using a look up table to determine an estimate of the Gold code phase.